

Date 5/18/05 Serial # 091887827 Priority Application Date 6/22/2001 <sup>153942</sup>  
Your Name M. Lewis Examiner # \_\_\_\_\_  
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In what format would you like your results? Paper is the default. ☒ PAPER ☐ DISK ☐ EMAIL

If submitting more than one search, please prioritize in order of need.

The EIC searcher normally will contact you before beginning a prior art search. If you would like to sit with a searcher for an interactive search, please notify one of the searchers. *Need before 5/30*

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What relevant art have you found so far? Please attach pertinent citations or Information Disclosure Statements. \_\_\_\_\_

What types of references would you like? Please checkmark:

Primary Refs \_\_\_\_\_ Nonpatent Literature \_\_\_\_\_ Other \_\_\_\_\_  
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What is the topic, such as the **novelty**, motivation, utility, or other specific facets defining the desired **focus** of this search? Please include the concepts, synonyms, keywords, acronyms, registry numbers, definitions, structures, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract and pertinent claims.

Claims 1-6  
Problem: See pages 1.  
Solution: " 11 9  
- Coated Metal Article  
- metal substrate with tin/tin alloy coat  
- Interlayer under tensile stress / tension  
Please look for materials  
traces that are disclosed

Staff Use Only

Searcher: HARRISON  
Searcher Phone: 22511

Searcher Location: STIC-BIC2800, JEP-4B68  
Date Searcher Picked Up: 5/31/05

Date Completed: 98

Searcher Prep/Rev Time: 10

Online Time: 88

Type of Search

Structure (#) \_\_\_\_\_  
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31may05 12:18:11 User259284 Session D3189.3

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Set	Items	Description
S1	648	(SN OR TIN OR TINN?????? OR TINCOAT? OR TINPLAT?) (4N) (TENS- ????????? OR POSITIVE??(2N) (STRESS????? OR STRAIN??????))
S2	522	RD S1 (unique items)
S3	4	S2 AND WHISKER????????
S4	201	S2 AND TENSION????????
S5	49	S2 AND TENSILE()STRESS?????
S6	8	S2 AND TENSILE()STRAIN????????
S7	246	S4 OR S5 OR S6
S8	245	S7 NOT S3
S9	160	S8 AND (TIN OR SN OR TINN?????? OR TINCOAT? OR TINPLAT?)/TI
S10	53	S9/2001-2005
S11	107	S9 NOT S10
S12	73	S11 AND (STRESS??????? OR STRAIN??????? OR TENS????????)/TI
S13	30323	(CU OR COPPER????? OR METAL????????) (3N) SUBSTRATE? ?
S14	7	8AND13
S15	2	S14 NOT (S12 OR S10 OR S3)
S16	2	S6 NOT (S12 OR S10 OR S3)
S17	4	S15 OR S16
S18	139	S8 AND (TIN AND SN)
S19	14	S8 AND (TIN OR SN) ()COAT????????
S20	48456	(SN OR CI=SN) AND TIN
S21	141	S8 AND S20
S22	141	RD S21 (unique items)
S23	52	S22 NOT (S19 OR S17 OR S12 OR S10 OR S3)
S24	187	(PREVENT??????? OR SUPRESS??????? OR SUPPRESS???????? OR ELIM- INAT???????? OR AVOID??????) (4N)WHISKER?
S25	0	1AND24
S26	402	(TIN OR SN) (4N)WHISKER?
S27	3	1AND26
S28	5131	CI=SN EL
S29	4215	S1:S27 AND S28
S30	87	WHISKER? AND S29
S31	40	S30/2001-2005
S32	47	S30 NOT S31

**CAS/STN FILE 'REGISTRY' ENTERED AT 10:21:02 ON 31 MAY 2005**

L1 27643 S TIN/CN OR TIN ALLOY  
 L2 10725 S (SN>50/MAC AND ALLOY)  
 L3 27784 S (L1 OR L2)

**FILE 'HCAPLUS' ENTERED AT 10:21:47 ON 31 MAY 2005**

L4 48660 S (SN OR TIN) (3A) (METAL##### OR ALLOY#####)  
 L5 131590 S L3  
 L6 6088 S (L4 OR L5) AND (POSITIV### (3A) (STRAIN####  
 OR STRESS####) OR TENSION OR TENSIL####)  
 L7 3433 S L3(L) (STRESS#### OR STRAIN##### OR WHISKER##### OR TENSIL#####  
 OR TENSION#####)  
 L8 33485 S (SN OR TIN OR ALLOY#####) (4A) (STRESS####  
 OR STRAIN##### OR WHISKER##### OR TENSIL##### OR TENSION#####)  
 L9 2462 S L6 AND (L7 OR L8)  
 L10 163335 S (SN OR TIN OR ALLOY#####) (4A) (?COAT? OR  
 FILM OR ?LAYER? OR ?DEPOSIT?)  
 L11 20337 S L3(L) (?COAT? OR FILM OR ?LAYER? OR ?DEPOSIT?)  
 L12 208 S L9 AND (L10 OR L11)  
 L13 28 S (SN OR TIN) (W) COATED(W) METAL#####  
 L14 590 S (SN OR TIN) (W) COATED(W) (CU OR COPPER OR  
 STEEL OR NI OR NICKEL OR FE OR FERROUS OR IRON OR CO OR COBALT)  
 L15 17367 S (CU OR COPPER OR STEEL OR NI OR NICKEL OR  
 FE OR FERROUS OR IRON OR CO OR COBALT) (W) (COATED OR PLATED)  
 L16 2406 S TIN PLATE  
 L17 2996 S TINPLATE  
 L18 3259 S TINPLAT####  
 L19 3672 S SN(W) (COAT##### OR PLAT####)  
 L20 8 S TINCOAT#####  
 L21 4481 S TIN PLAT####  
 L22 22 S L12 AND (L13 OR L14 OR L15 OR L16 OR L17  
 OR L18 OR L19 OR L20 OR L21)  
 L23 1109 S (INCREAS#### OR HIGH##### OR GREAT#####  
 OR INCREAS##### OR MORE OR ENHANC##### OR ELEVAT#####) (W) (SU  
 RFACE OR SN OR TIN) (W) (TENSIL##### OR TENSION#####)  
 L24 1477 S TINNED  
 L25 1258 S TINNING  
 L26 0 S L12 AND L23  
 L27 5 S L12 AND L24  
 L28 7 S L12 AND L25  
 L29 8 S (L27 OR L28) NOT L22  
 L30 36548 S (STRESS#### OR STRAIN####) (2A) (POSITIV##### OR TENS#####)  
 L31 35 S L12 AND L30  
 L32 4 S L12 AND (SN OR TIN OR TINN#####) (3A) (WHISKER##### OR  
 FRAGMENT##### OR CRACK#### OR INTEGRIT####)  
 L33 2 S L32 NOT (L29 OR L22)  
 L34 13 S L31 AND (THIN OR THINN##### OR THICK#####  
 OR MICRON OR MU OR MPA OR ?GRAIN?)  
 L35 12 S L34 NOT (L32 OR L29 OR L22)  
 L36 1848 S ("TIN ALLOYS"/CT OR "TIN ALLOYS, BASE"/CT  
 OR "TIN ALLOYS, CONTAINING"/CT)  
 L37 0 S L31 AND ("TIN PLATE"/CT OR TINPLATE/CT)

**FILE 'REGISTRY' ENTERED AT 10:43:51 ON 31 MAY 2005**

L38 3 S (COBALT OR IRON OR NICKEL)/CN  
 L39 434433 S (COBALT OR IRON OR NICKEL) (W) ALLOY#####  
 L40 339574 S (CO>50/MAC OR FE>50/MAC OR NI>50/MAC) AND ALLOY#####

## FILE 'REGISTRY' ENTERED AT 10:43:51 ON 31 MAY 2005

L41 78406 S (CO>50/MAC OR FE>50/MAC OR NI>50/MAC) AND STEEL  
 L42 86561 S STEEL  
 L43 338930 S L39 AND L40  
 L44 167242 S (CO>80/MAC OR FE>80/MAC OR NI>80/MAC) AND ALLOY#####

## FILE 'HCAPLUS' ENTERED AT 10:47:50 ON 31 MAY 2005

L45 35380 S (L4 OR L5) AND L38  
 L46 3313 S (L4 OR L5) AND L41  
 L47 8711 S (L4 OR L5) AND L42  
 L48 3409 S (L4 OR L5) AND L44  
 L49 895 S (L45 OR L46 OR L47 OR L48) AND (INTERLAYER  
 OR INTERMEDIATE LAYER OR INTERPO#####)  
 L50 336 S (L45 OR L46 OR L47 OR L48) AND (INTER  
 LAYER OR INTERMEDIATE LAYER OR INTERPO#####)  
 L51 2121 S (SN OR TIN OR TINN##### OR TINPLAT? OR  
 TINCOAT?) (3A) (STRESS##### OR STRAIN##### OR TENS#####)  
 L52 158 S (L45 OR L46 OR L47 OR L48 OR L49 OR L50) AND L51  
 L53 627 S (SN OR TIN OR TINN##### OR TINPLAT? OR TINCOAT?)  
 (8A)WHISKER?  
 L54 56 S (L45 OR L46 OR L47 OR L48 OR L49 OR L50) AND L53  
 L55 783 S L52 OR L53 OR L54  
 L56 44 S L35 OR L32 OR L29 OR L22  
 L57 771 S L55 NOT L56  
 L58 225 S (TINPLAT? OR TINCOAT? OR TINN##### OR  
 (?LAYER? OR FILM OR ?COAT? OR ?DEPOSIT?) (1A) (TIN OR SN)) AND L57  
 L59 2 S L58 AND TENSION#####  
 L60 209 S L58 AND WHISKER?  
 L61 209 S L58 AND ?WHISKER?  
 L62 5 S L58 AND TENSIL?  
 L63 7 S L59 OR L62  
 L64 1132 S (TIN OR TINN##### OR SN) (5A)INTERNAL#####  
 L65 3 S L58 AND L64  
 L66 3 S L65 NOT L63  
 L67 603605 S CRYSTAL NUCLEATION OR SURFACE STRUCTURE OR CRYSTAL STRUCTURE  
 OR ?WHISKER?  
 L68 209 S L58 AND L67  
 L69 205 S L68 NOT (L66 OR L63)  
 L70 205 S (TINPLAT? OR TINCOAT? OR TINN##### OR (?LAYER? OR FILM OR  
 ?COAT? OR ?DEPOSIT?) (1A) (TIN OR SN)) AND L69  
 L71 2 S (SN OR TIN OR TINN##### OR TINPLAT? OR TINCOAT?) (1A)  
 (STRESS##### OR STRAIN##### OR TENS#####) AND L70  
 L72 259 S (SN OR TIN) (W)?WHISKER?  
 L73 203 S L70 NOT L71  
 L74 74 S L72 AND L73  
 L75 6 S L74 AND METAL##### (2A) SUBSTRATE  
 L76 6 S L74 AND METAL##### (2A) ?COAT?  
 L77 11 S L74 AND METAL##### (2A) (SN OR TIN OR TINN#####)  
 L78 16 S (L75 OR L76 OR L77)  
 L79 251 S WHISKER?/TI AND (L4 OR L5)  
 L80 179 S L79 AND (STRESS##### OR STRAIN##### OR  
 TENS##### OR TIN##### OR TINN##### OR SN)/TI  
 L81 72 S L71 OR L78 OR L66 OR L63 OR L56

## FILE 'HCAPLUS' ENTERED AT 10:47:50 ON 31 MAY 2005

L82 161 S L80 NOT L81  
 L83 75 S L80 AND (INTER##### OR SUBLAYER? OR  
 UNDERLAYER? OR UNDERCOAT? OR SUBCOAT? OR THICKNESS OR ?GRAIN?)  
 L84 10 S L80 AND (TENSION##### OR TENSILE STRAIN OR TENSILE STRESS)  
 L85 18 S L80 AND (INTER##### OR SUBLAYER? OR UNDERLAYER? OR  
 UNDERCOAT? OR SUBCOAT? OR THICKNESS OR ?GRAIN?) (6A) (STRESS##### OR STRAIN##### OR  
 TENS#####)  
 L86 24 S (L84 OR L85)  
 L87 366 S (L81 OR L82 OR L83 OR L84 OR L85 OR L86) OR L58  
 L88 SEL PLU=ON L87 1- PRN : 158 TERMS

## FILE 'WPIX, JAPIO' ENTERED AT 11:10:09 ON 31 MAY 2005

L89 459 S (SN OR TIN OR TINPLAT? OR TINCOAT? OR TINN#####)  
 (3A) (WHISKER? OR TENS##### OR STRESS##### OR STRAIN#####)  
 L90 268 S L88  
 L91 102 S L90 AND L89  
 L92 1 S L91 AND (TENSION OR (TENS##### OR POSITIV#####)  
 (3A) (STRESS##### OR STRAIN#####))  
 L93 2 S JP 63317654/PN  
 L94 1 S L93 NOT L92  
 L95 0 S L91 AND L94

## FILE 'DPCI' ENTERED AT 11:13:57 ON 31 MAY 2005

E JP 63317654/PN.D

## FILE 'WPIX, JAPIO' ENTERED AT 11:15:56 ON 31 MAY 2005

L96 44 S (TINCOAT? OR TINPLAT? OR (SN OR TIN) (W) (COAT##### OR ?LAYER?  
 OR FILM OR ?DEPOSIT?)) AND L90  
 L97 9 S L90 AND TINN#####  
 L98 50 S (L96 OR L97) NOT L93  
 L99 26 S L98 AND (MU OR MUM OR MICRON OR THICK##### OR THIN OR  
 THINN##### OR ULTRATHIN? OR SIZE OR ?GRAIN? OR MPA OR ?PASCAL? OR (AMOUNT OR  
 QUANTITY OR LEVEL OR DEGREE OR RANG#####) (4A) (TENS##### OR STRAIN##### OR  
 STRESS#####)

## FILE 'REGISTRY' ENTERED AT 16:38:36 ON 10 JUN 2005

L30 1 S "METHANE SULFONIC ACID, OLEAMIDO-, SODIUM SALT"/CN  
 L31 1 S "METHANESULFONIC ACID"/CN  
 L32 1 S "TIN METHANESULFONATE"/CN

## FILE 'HCAPLUS' ENTERED AT 16:41:40 ON 10 JUN 2005

L33 8840 S L31 OR METHYL SULFONIC ACID OR METHYLSULFON  
 IC ACIDE OR METHANESULFONIC ACID  
 L34 8843 S L33 OR METHYL SULPHONIC ACID OR METHYLSULP  
 HONIC ACID OR METHANESULPHONIC ACID  
 L35 95 S L32 OR TIN METHANESULFONATE OR TIN METHANE  
 SULFONATE OR TIN METHYLSULFONATE  
 L36 98 S L35 OR SN METHANESULFONATE OR SN METHANE  
 SULFONATE OR SN METHYLSULFONATE  
 L37 98 S (L35 OR L36) OR SN METHANESULPHONATE OR SN  
 METHANE SULPHONATE OR SN METHYLSULPHONATE OR SN METHYL  
 SULFONATE OR SN METHYL SULFONATE  
 L38 100 S (L35 OR L36 OR L37) OR TIN METHANESULPHONAT  
 E OR TIN METHANE SULPHONATE OR TIN METHYLSULPHONATE OR TIN  
 METHYL SULFONATE OR TIN METHYL SULFONATE  
 L39 70 S L34 AND (L35 OR L36 OR L37 OR L38)  
 L40 18 S L39 AND (WETTING AGENT OR SURFACT? OR  
 SURFACE ACTIVE OR AGENT 300 OR LUCENT ECS OR ECS)  
 L41 5 S L39 AND (ANTIOXID? OR ANTI(W)OXID#####)  
 L42 10 S L39 AND (TEMPERATURE OR 50(1W) (DEG OR  
 DEGREE OR C OR CELSIUS))  
 L43 1 S L39 AND (122 OR 123 OR 124 OR 125 OR 121  
 OR 120 OR 100 OR 115) (2W) (DEG OR DEGREE OR F OR FAHRENHEIT)  
 L44 20 S L39 AND (CD OR CURRENT(2A) DENSITY OR C D  
 OR AMPERAGE OR AMP OR ASF OR AFT OR AFT2)  
 L45 6 S L39 AND (NEUTRAL OR PH OR NONACID? OR  
 NON(W) (ACID#### OR BASE OR BASIC OR ALKALI####) OR NONBAS####  
 OR NONALKAL#####)  
 L46 48 S L39 AND BATH  
 L47 4 S L39 AND CONDITION  
 L48 62 S L39 AND (L40 OR L41 OR L42 OR L43 OR L44  
 OR L45 OR L46 OR L47)  
 L49 13 S L48 AND (THIN##### OR MU OR MICRON OR  
 THICK##### OR GRAIN##### OR BOUNDARY OR INTERFAC##### OR  
 TENS#### OR STRAIN#### OR STRESS####)  
 L50 4 S (L33 OR L34 OR L35 OR L36 OR L37 OR L38 OR  
 L39 OR L40 OR L41 OR L42 OR L43 OR L44 OR L45 OR L46 OR L47 OR  
 L48 OR L49) AND (SN OR TIN) (3A) GRAIN####  
 L51 4 S L50 NOT L49

## FILE 'REGISTRY' ENTERED AT 16:57:37 ON 10 JUN 2005

L52 1 S 53408-94-9/RN

## FILE 'HCAPLUS' ENTERED AT 16:57:37 ON 10 JUN 2005

L53 120 S L52  
 L54 121 S L53 OR STANNOUS METHANESULFONATE  
 L55 83 S L54 AND (L33 OR L34 OR L35 OR L36 OR L37  
 OR L38 OR L39 OR L40 OR L41 OR L42 OR L43 OR L44 OR L45 OR L46  
 OR L47 OR L48 OR L49)  
 L56 82 S L55 NOT (L50 OR L49)  
 L57 2 S L56 AND GRAIN#####  
 L58 3 S L56 AND TEMPERATURE  
 L59 0 S L56 AND CONDITION  
 L60 0 S L56 AND VARIABLE  
 L61 0 S L56 AND PARAMETER  
 L62 4 S L56 AND CONTROL#####  
 L63 9 S (L57 OR L58 OR L59 OR L60 OR L61 OR L62)  
 L64 19981 S COARS##### (3A) GRAIN#####  
 L65 2 S ((L33 OR L34 OR L35 OR L36 OR L37 OR L38  
 OR L39 OR L40 OR L41 OR L42 OR L43 OR L44 OR L45 OR L46 OR L47  
 OR L48 OR L49) OR (L53 OR L54 OR L55 OR L56)) AND L64